

# Hobbies

## WEEKLY

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## Get ready for summer fun now by making A SIMPLE CANOE

**T**HIS design of canoe has been purposely made simple, so that its construction can be confidently undertaken by any handy reader. It is of the flat bottom variety and made of wood, with some linoleum or sheet metal for the sides, the latter being afterwards covered with canvas or strong calico. It is comparatively a cheap piece of work and needs no building boards for constructional purposes.

A half plan is given in Fig. 1. Make up the floor first from  $\frac{3}{4}$  in. tongued and grooved boards, joined edge to edge as in the diagram, to make up a width of just over 2ft. 6ins.

It will be seen that some economy can be effected here, as the curve of

the sides makes it unnecessary to use full length boards to make the width but rather boards of variable lengths. The boards are not glued together but the tongues and grooves are coated with a thick white lead paint instead to prevent water seeping through.

### Cross Frames

The frames, Fig. 2, are made up of  $\frac{1}{2}$  in. boards for sides and top rail, nailed to 1 in. square bottom rails. Make the frames to the dimensions given and see they are firmly screwed together. Two notches are cut away from each side to admit the side battens, which are  $\frac{3}{4}$  in. deep and 1  $\frac{1}{2}$  ins. wide.

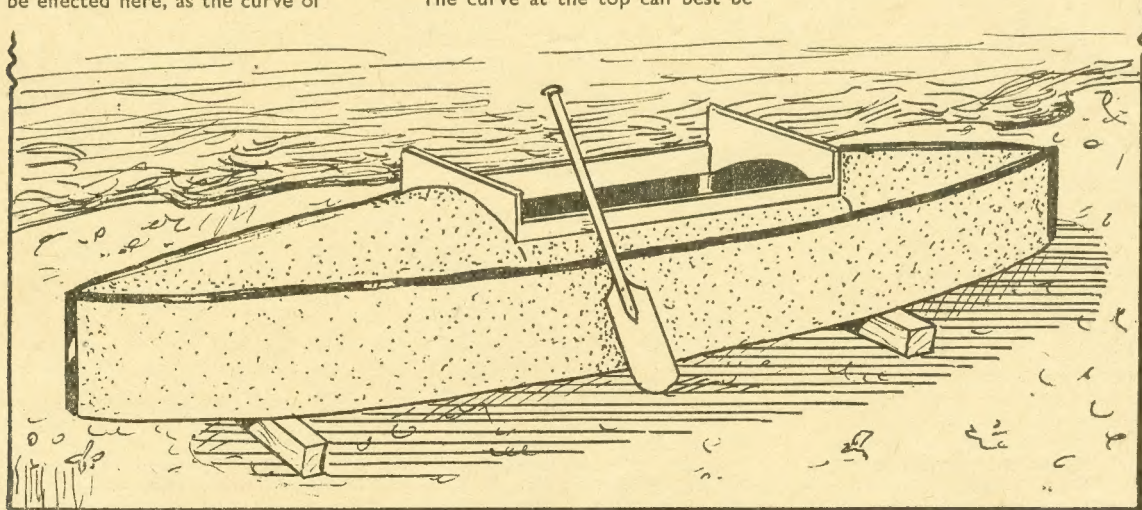
The curve at the top can best be

got by bending a narrow flexible strip of wood across and then running a pencil round it. Cut the curves with a keyhole saw.

A point to observe when screwing or nailing the frames together, is not to use either on those parts of the top rails which will subsequently be sawn away. It is a waste.

Another point, as the curved rail of the middle frame (No. 3) will mostly be cut away to form the cockpit, some extra strength in the ends so left is desirable. So add some glue to the joint before screwing up.

On the bottom of the canoe, pencil lines across, at the intervals shown in the plan, Fig. 1. These indicate where the frames will be





fitted. On these lines the frames can now be well screwed down.

At each end a stem post is needed. This is shown in Fig. 3, fitted to the bottom. It is made up from a piece of wood planed up to section shown at A, from sufficient 2½ ins. by 3 ins. wood to make both. The "flat" at the sharp ends need only be about ½ in.

### Side Curves

For convenience the bottom is shown in Fig. 3 cut to shape, but actually the cutting is left until the curve of the sides can be marked. The posts are firmly screwed to the bottom, and to stiffen them up, a bracket as shown, is fixed behind each, being screwed both to post and bottom of the canoe.

To mark the shape of the canoe, take one of the side battens, of which there are four (two being 1½ ins. by ¾ in., and two 2½ ins. by ¾ in.), and bend it round the frames at their bottom, pressing the batten in the notches cut for that purpose. Then run a pencil round on the inside, not the outside. Knock the battens out, and saw the shape of the canoe to the pencil lines. This can be most easily done with a keyhole saw, a convenient tool for that purpose.

The 1½ in. battens can now be bent round the frames in the upper notches, and be there nailed and screwed to the posts. In the lower

nailed on with copper tacks, not iron or steel ones, as those two would rust. Nailing the linoleum on, it is as well to coat the edges of the frame, also the battens and posts with the thick paint mentioned beforehand.

When the posts are reached, a space will be found between the top and bottom battens which can be

### CUTTING LIST

Bottom—½ in. by 4½ ins. tongued and grooved board. 70ft. run.  
Side battens (2)—½ in. by 1½ ins. by 11ft.  
Side battens (2)—½ in. by 2½ ins. by 11ft.  
Bottom batten—½ in. by 1½ ins. by 10ft.  
Frames. Top rail—½ in. by 6 ins. by 7ft.  
Frames. Top rail—½ in. by 4 ins. by 3ft.  
Frames. Sides—½ in. by 3 ins. by 13ft.  
Frames. Bottom rails—½ in. by 1 in. by 10ft.  
Posts (2)—2½ ins. by 3 ins. by 11 ins.  
Coaming, ends—½ in. by 8 ins. by 3ft. 6 ins.  
Coaming, sides—½ in. by 3 ins. by 7ft.  
Other items from waste wood left over.

filled in with a ¾ in. thick strip of wood to which the linoleum can also be nailed. Trim off any surplus linoleum all round, especially at the sharp ends of the posts.

The sides are now to be covered either with canvas or a strong calico. The latter is much the cheaper and might well be used as its chief use is

as a vehicle to hold the exterior coating of paint. Cut the material some 14 ins. wide and where a joint is necessary to make up the length of one side, fold the meeting ends

will be necessary to snip a small piece out to clear each frame. At the ends the material is cut off, leaving just enough to fold together. Tack these folds to the posts.

Turn the canoe over, paint the edges of the wood bottom and pressing the material down, tack it in place. No creases or doubled thickness should be allowed, except where it cannot be avoided, so it may be necessary to snip the stuff as it is folded over. The snips should only be as far as is necessary, and not extend to the actual edges of the canoe.

The folded edges of the material are now liberally coated with the thick paint and covered with ¾ in. strips of wood, nailed down, as in diagram, Fig. 5. The edges of these strips should be sawn to the curve of the bottom.

This part is now finished by nailing half-round strips of wood to both posts at both ends, to hide the tacked edges of the material. Along the centre of the bottom, also, nail a ¾ in. by 1½ in. strip of wood from stem to stern.

### Forming a Cockpit

With the canoe right side up again, a cockpit for the canoeist to work in can be arranged by sawing away most of the top rail of frame 3, and nailing a strip of wood each side, reaching from frame 2 to frame 4. The strips can be ½ in. by 3 in. wood. They should be screwed to the frames at 3 ins. from the sides, and should be laid temporarily across all three frames to see where they cross frame 3, so that the top rail of the latter can be accurately marked for cutting.

The material for the sides can now

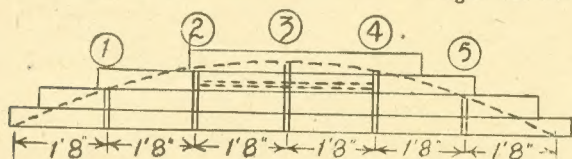


Fig. 1—Half plan of floor with position of frames marked

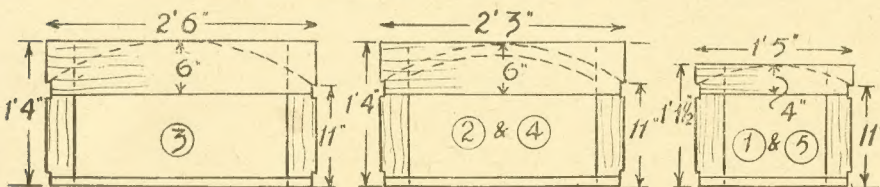


Fig. 2—Size and shape of the numbered cross frames required

notches the 2½ in. battens are similarly fixed. When this is satisfactorily done, melt some pitch in an old tin and pour along the inside joints, between bottom and lower battens, to seal them against any water entering in through the cracks.

### Covering the Sides

The sides must now be covered in. For this purpose about the best and cheapest material to use (apart from thin plywood), is old linoleum. Not too old, of course, but worn enough to have lost its pattern and not too thin or "holey". To save enquiries, some of that aluminium sheeting now on the market could be used.

Whichever is adapted it should be

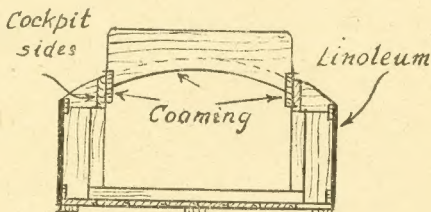


Fig. 4—A cross section of boat

closely together and sew strongly.

Coat the sides of the canoe with the thick paint, applying it liberally. Then lay the material over and press well down, leaving 1½ ins. at top and bottom for bending over. At the top the surplus material is folded over on the inside and there tacked down. It

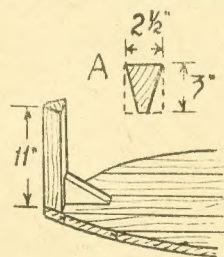


Fig. 3—The end posts

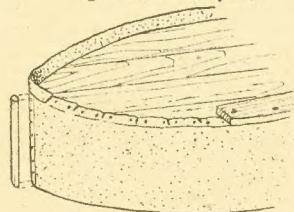


Fig. 5—The covered edges fixed

be used also for covering in the fore and aft parts of the top, being tacked to the outside and to the frames. Fill in the narrow side pieces, also, each side of the cockpit. The line of tacks on the sides can be

(Continued foot of page 288)



# Add to the attractiveness of the model by making these DOLL'S HOUSE SURROUNDS

**T**HE large number made up from the various designs published in these pages from time to time proves that Doll's Houses are, undoubtedly, one of the most popular models that workers can make. Photographs received by the Editor show that those who make them take much pains to finish them in detail.

Many readers add electric light to the various rooms, as well as little imitation fires run from the same electric circuit. Details of the kitchen and bathroom are also often added, and the completed models make excellent exhibition pieces.

The worker should, however, consider also the exterior, not only of the house itself, but of the surrounding work. We have seen many where complete imitation gardens have been added, with a rockery of small stones, crazy paving, bird baths, etc.

The model in such a case can have a large baseboard made of stout cardboard, or odd wood held together by battens and covered over with thin card. The model can be fixed to the base or, particularly where the base is of cardboard, could just stand in place and be removed at will.

Around the base can be glued or screwed railings, fences or low walls, several types of which are illustrated in this article.

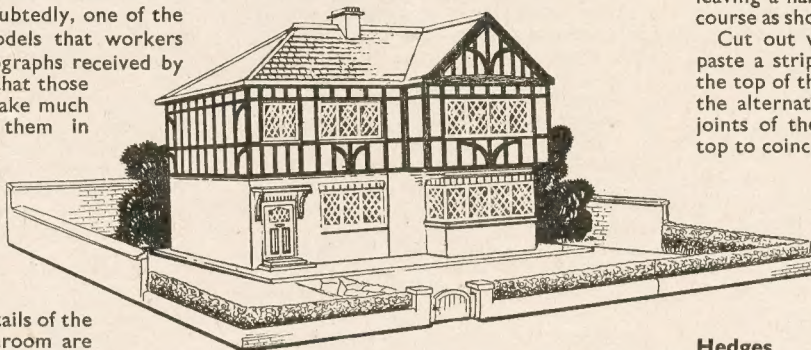
## Boundaries from Oddments

In Fig. 1 two types of post are illustrated. These are made exactly as shown, from odd pieces of strip-wood or dowelling. Holes are bored to take  $\frac{1}{8}$  in. round rod and odd pieces of rod can be put to good use in this way.

Another method is to make the holes with a fretwork drill, using a large drill-point, and wire in the place of round rod. The wire has the advantage of being easily bent to form

a semicircle or to fit awkward corners.

An attractive boundary can be formed by using the same type of



post as in Fig. 1, but in this case, only one hole need be bored in each, and a piece of string threaded through. The sketch in Fig. 2 shows exactly what is meant.

## Walls

There are invariably a few pieces of brickpaper left over from the house itself and these can be put to very good use by pasting them to odd pieces of wood to form walls. Plain walls are not very attractive, but a little thought will show that many designs can be cut out.

An example of a simple wall is shown in Fig. 3. In this case the wall is seven bricks high and forms a pleasing alternative to a plain brick wall.

The method of construction is

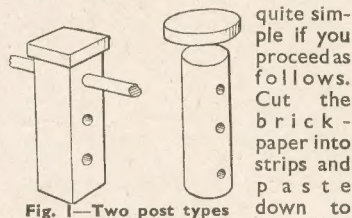


Fig. 1—Two post types



Fig. 2—Post and "rope" type of fencing

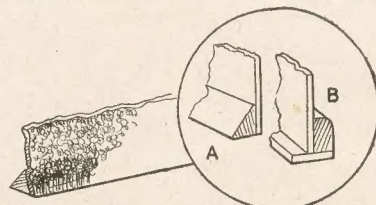


Fig. 5—An imitation hedging

odd pieces of wood. When the paste is quite dry, mark out the design with a pencil, as in Fig. 4. Make sure that you keep to the lines of the bricks, leaving a half-brick on each alternate course as shown.

Cut out with a fretsaw and then paste a strip, one brick thick, along the top of the wall. The half-brick in the alternate courses will allow the joints of the strip pasted along the top to coincide with the joints in the face of the wall as shown in Fig. 4. An easier method, though not quite so effective, is to paint the top of the wall with dull red paint, lined across for mortar joints.

## Hedges

Neatly clipped hedges always look attractive in real life and the more ambitious modelmaker can make these quite easily. The construction is shown clearly in Fig. 5. A strip of wood  $\frac{1}{8}$  in. long by 2 in. high and any thickness up to  $\frac{1}{2}$  in. is cut out, leaving the top edge slightly irregular. A strip of wood, square or triangular, is glued behind to form a support as shown in inset A, Fig. 5.

The effect depends mainly upon the painting, but can be easily accomplished if this method is used. First paint the strip all over, medium green. Procure a piece of rag, tie a rough knot in it and lightly dab the whole strip with the knot while the paint is still tacky.

Next dip the rag into a darker green and dab along the strip to form a shadow at the bottom of the hedge as shown in Fig. 5. Finally, with a soft pencil, make vertical marks at the extreme lower edge to represent the stems of the hedging shrubs.

The illustration of the doll's house and inset B, Fig. 5, shows a low wall and hedge combined. The low wall, painted red, not only looks attractive when seen from the front, but also serves as an additional support for the hedge itself.

If you find it easier to make plain walls and paint them red, do not forget to finish them off with a suitable coping.

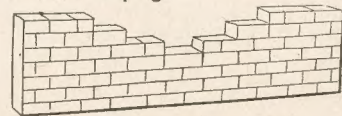


Fig. 3—A simple wall effect



Fig. 6—Alternative wall tops

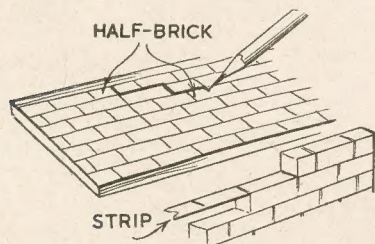


Fig. 4—Marking out the wall



# The enjoyment and practical articles you can get from SIMPLE LINOCRAFT

*Wendycot*

**A**TTRACTIVE name boards for your house, which can be made quite cheaply and will last for years, can be made from a piece of ordinary floor linoleum. Practically everybody has at one time or another dabbled in the fascinating art of cutting designs out of pieces of lino and taking prints therefrom to make Christmas cards, calendars, or designs for magazine covers.

In printing from a lino cut the print is the thing required. The lino cut is merely the means, and is then put aside until further prints are needed.

In making a name board for the house or a plaque for the club room, however, we use the actual lino for the purpose. You will need a piece of lino (preferably cork lino), carbon paper, a sheet or two of thin plain paper, drawing pins, pencil, gouge, brush, floor stain, tacks, glue and a mounting board.

## A Simple Example

Supposing you want the name of your house to be "Wendycot", you must first determine the size of board required and then cut out a piece of lino the exact size of the finished job. The best lino to use for this work is cork lino, which can be obtained without docket from furnishing houses.

The next important thing is to draw in pencil on a thin, but strong piece of paper, the style of lettering required. If you are not good at lettering, take a look at some well-finished poster, and copy, as near as possible, or trace individual letters for the lettering you wish to adopt,

making it fit to your own requirements.

Presuming you have drawn out the lettering, next make a "frame" around it about  $\frac{1}{4}$  in. wide, and about 1 in. away from the letters all round. The outside of the frame should be the limits of the board.

Having got the design accurately down on paper, place a sheet of carbon paper on the lino and with the design on top, trace carefully round the lettering and the frame. This should produce an accurate and clear replica of your original design. If any letters need touching up, now is the time to do it.

## Cutting the Shape

Now you come to the most interesting part of the whole job. Take a V shaped gouge (obtainable from any artist's supply shop, and sold for lino cutting), and after getting the "feel" of the tool on an odd scrap of lino, commence to cut round the outline of the lettering and the frame. If a gouge is unobtainable, a sharp pen-knife is just as good.

This calls for skill and accuracy. One slip of the cutting tool and you might ruin your work, so be careful in this operation. It is not necessary to cut in one direction only, so long as you gouge out the background and leave the letters standing up.

It is most important to make sure the tool employed is a sharp one, so that it leaves no ragged edges. These would make the finished job look untidy. This part of the work done, you can set aside your cutting tool and go right forward with the next operation—mounting.

## Fixing the Lino

A piece of laminated board is to be preferred, but any good piece of boarding about  $\frac{1}{2}$  in. thick will do. Glue the lino to the board, preferably with marine glue—though not necessarily—and when it has set hard, stain the board and the lino with ordinary floor stain. It will be

noticed that the stain does not take readily on the raised letters as it does on the parts carved away. In any case the lettering and the border should be carefully wiped clean of stain before it dries.

If, when the board is dry, it is found that some stain has dried on the letters, take a sharp razor blade and carefully scrape away any remaining stain, being careful not to cut or scratch the lino surface.

Everything should now be quite ready for painting in the letters and border. Any kind of paint will do, but for preference use a hard gloss

*We are always pleased to have suggestions from readers on designs or subjects for articles which they would like in these pages, and much regret there is not room to accommodate all of them. The design sheets published are always obtainable separately, price 6d., and are not given away with back numbers.*

enamel of a light shade, say, cream or white. Carefully paint in the letters with an ordinary artist's brush, being careful not to allow the paint to run off the letters on to the stained portion.

Place the finished board in a spare room away from a dusty atmosphere, to allow the paint to harden thoroughly. It will then be ready to hang from hooks or to be screwed on to plates on the front door or gate.

## Two-colour Efforts

Variations of the above methods can be experimented with, such as painting in two colours, or reversing the process by cutting out the letters and leaving the background standing up. It all depends on individual preferences.

There are endless possibilities, too, in making plaques or shields for club rooms, by taking a design from a magazine, enlarging it, and using the same methods.

## Canoe—(Continued from page 286)

hidden by nailing or screwing a long wood strip over from stern to stern of the canoe.

The edges of the cockpit opening now has an edging fitted, called a coaming. This will be seen in the view of the finished canoe, also in the cross section of the boat, shown at Fig. 4.

## Coaming

The front and back sections of the coaming are cut from  $\frac{1}{2}$  in. by 8 in. boards, and are nailed to the frames to extend just 2 ins. above them, at the centre of the curves. The side pieces are cut from  $\frac{1}{2}$  in. by 3 in.

boards, and are fixed between to rise 1 in. above the side pieces. This completes the actual work of construction.

## Inside Work

The inside of the canoe should receive one or two coats of paint. This job should be done before the decks are covered in, as it will be almost impossible to reach some parts of the interior afterwards. The bottom of the canoe can also be painted.

The material, canvas or calico, should receive two coats of boiled linseed oil, letting one coat dry

before adding the second. The drying can be hastened by adding a little patent driers to the oil.

## Coloured Finish

Complete the work of finishing with two coats of paint of the desired colour, not forgetting the coaming and other outside wood parts left. A pleasing effect can be obtained by painting these wooden parts a contrasting colour to the rest.

A single or double paddle can be bought or made as preferred, and then your canoe is ready to give you all the delights of this pleasing pastime on the waters.



# For keeping a few pages or cuttings neatly, try your hand at SINGLE SHEET BINDING

**D**OUBTLESS there are many readers who feel a particular interest in one certain hobby, and while not wishing to retain all the contents of their paper, would like to take out and bind up that part their full interests lie in. Photographic or stamp collecting readers, for instance, might rather bind the pages that deal with their favourite hobby, than bind the whole.

The single sheets should be carefully extracted from the paper, and when sufficient have been collected, piled in a heap. See the fore edges of the heap are all level, the back edges can be ignored. When all are flat and arranged at distances of  $1\frac{1}{2}$  ins. from each end, pierce the lot at  $\frac{1}{4}$  in. from the back edge and staple all together, as in Fig. 1.

## Staple and Trim

The staples can be  $\frac{3}{4}$  in. long and bent up from any stiffish wire to shape at A. A bodkin is the best tool to use for piercing the holes, or a straight awl will serve. A very good substitute if neither is obtainable, or to hand, is a dart with the "flight" end cut off.

When all the pages are securely stapled together, lay them on a sheet of spare cardboard, and with the aid of a sharp penknife and a straight-edge, trim off the top, bottom, and fore-edges. Trim off only enough to make the edges level, or you may cut into the reading matter and largely spoil the job.

The cutting is simple work, but it is necessary to press rather heavily on the pile of leaves as the knife is drawn along, to prevent them rucking up, and to use the knife as sharp as possible so that it cuts through the paper cleanly.

For the covers get two sheets of cardboard off any old box and cut to the dimensions of the leaves, plus  $\frac{1}{4}$  in. larger all round. From what will be the back edges of the covers, draw a pencil line down at  $\frac{3}{8}$  in. from there and on this line cut right through the card, as at Fig. 2. The two pieces thus divided should be separated just enough to allow the point of a drawing pin to enter between them, at top and bottom, as in inset.

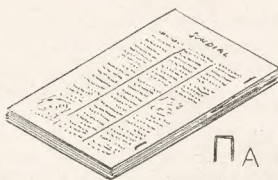
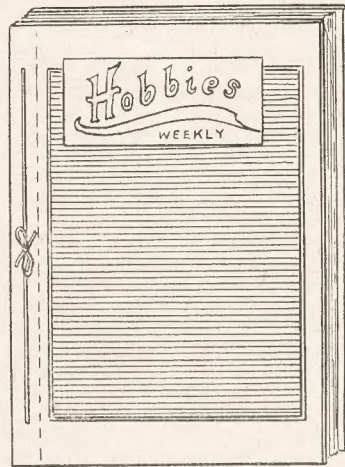


Fig. 1—The fixing with staples



Press the pins down to keep the two parts from shifting, then glue over the joint a strip of muslin or thin tape, say,  $\frac{1}{4}$  in. wide. Glue this down between the drawing pins first, then draw the pins out and glue down the remainder. Press well down with the fingers, then lift the cardboard over to the other side and glue similar strips over the joint there. This forms a hinge, enabling the covers to be lifted freely.

## Card Covers

The cardboard covers have now to be made more decorative by pasting paper over them. Almost any plain or coloured paper will do, or a strong brown paper could be utilized, if no particular artistic appearance is called for.

Those who may prefer something more pleasing to the eye could use fancy paper, doll's house wall paper, or leatherette, or American cloth, perhaps, if a specially strong cover is preferred. Whichever is chosen, cut them 1 in. larger each way than the covers so that  $\frac{1}{2}$  in. all round is left for folding over.

Paste the papers and lay the covers on them, then rub well down. Trim the corners diagonally, as at B in Fig. 3, and fold them over to the inside of the covers. Be careful to fold neatly at the

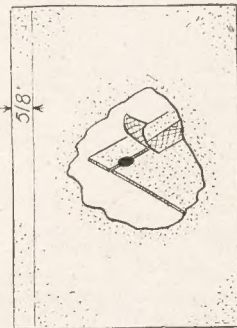


Fig. 2—The hinged cover

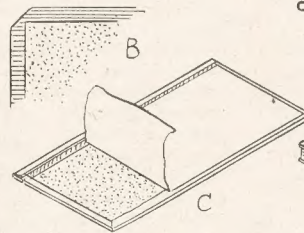


Fig. 3—Cover corners and insides

corners, as this is important to obtain a workmanlike result.

The inside of the covers are now similarly dealt with, but in this case the paper is cut just a shade less than the dimensions of the cover, measuring up to the joint, not the full width. This point should be noted, as if the inside paper covers the joint it will split when the cover is lifted. The detail, C, in Fig. 3, will, perhaps, make the matter clear.

## If Cloth Bound

It should also be noted that if leatherette or American cloth is used over the covers, it will be better to use glue for sticking down in place of the paste. As the glue hardens quicker than paste, it is better to apply it to the cardboard, instead of vice versa and then to glue the edges before folding over. Let the glue be moderately thin and hot, and use a sheet of newspaper under the covering material to keep the table clean. Glue is messy stuff.

When the covers are fit to handle, they should be sewn to the leaves, one each side. Lay them in position, and with the bodkin, force a hole through the lot at the middle,  $\frac{3}{8}$  in. in from the back edge. Use a large needle and either a double thickness of strong thread or twine for sewing.

Pass through the middle hole, then turn the lot over and bore a hole at 1 in. from one end. Pass the needle through this, turn over again and pierce a third hole at 1 in. from the opposite end, as in detail, Fig. 4. Draw the thread tight, then pass it through the middle hole once more and tie the ends together. A neat binding should result.

## Lettering the Cover

The cover can be plainly lettered or decorated according to the reader's ability and desire. Though not always necessary, at times an index is invaluable, so that any selected item can be picked out without trouble.

For this, one or two extra pages of plain white paper can be added to the pile before it is stapled together, or what is simpler, white paper can be used for pasting on the inside of the covers, and the index neatly printed on that.

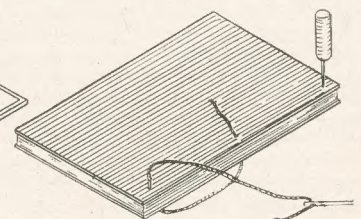


Fig. 4—The operation of stitching



# Reception, distortion, volume are affected by different DETECTOR CIRCUITS

**T**HE way in which the detector circuit is arranged has a considerable effect on the results obtained. Some types of circuit can give long-distance reception, while others are intended to secure maximum volume, or distortionless reproduction from more local stations. Accordingly it is interesting to try various circuits and note the results, although there is no need to go into the more complicated theory.

## The Grid Leak Detector

For general purposes this can give good results, and a circuit is shown in Fig. 1. C1 is the aerial-series condenser. The lower its capacity, the more selective does tuning become. A value of about .0001 mfd. or .0002 mfd. is usual, though it is some advantage to use a pre-set condenser

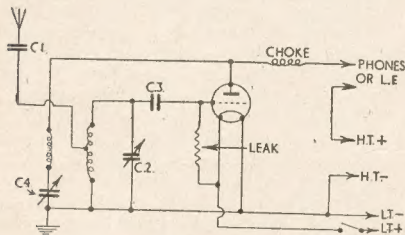


Fig. 1—The grid leak detector

which can be adjusted to various capacities.

C2 is the tuning condenser—.0005 mfd. for long and medium waves, and about .00015 mfd. for short waves. C3 is the grid condenser. It should be .0002 mfd. or .0003 mfd. for long and medium waves, and about .0001 mfd. for short waves. The reaction condenser (C4) will be about .0002 mfd. or .0003 mfd. and is not critical, except that insufficient reaction will be obtained if the condenser is of too low a capacity.

The grid leak should be about 1 to 2 megohms for long and medium waves, and 2 to 5 megohms for short waves. Because of condenser C3, detection takes place on the valve grid and the signal is developed across the leak.

By using a fairly high resistance leak and advancing the reaction condenser until the valve is almost oscillating, the circuit is made extremely sensitive indeed. Carefully operated (because tuning and reaction are critical with weak signals) such a one-valve circuit can pick up stations many thousands of miles away.

When tuned to powerful stations, however, some distortion and "fuzziness" of reproduction arises because an excessive voltage builds up across the leak.

## Anode-Bend Detector

Such distortion can be avoided by using the circuit shown in Fig. 2. Grid condenser and leak are removed, and about 1.5 to 3 volts Grid Bias applied through the tuning coil. As a result, the valve is driven on to a different point on its characteristic curve. This gives more volume and less distortion, and the circuit is well worth trying.

If C1 is omitted and a fairly long aerial used, it is possible to obtain fairly good loudspeaker results from only one valve, connected as illustrated. For best volume, use a 120 volt H.T. battery and a pentode valve.

With this circuit, a condenser of about .0002 mfd. to .0005 mfd. must be connected from anode to L.T. minus.

Unfortunately such a circuit will not pick up weak signals because of

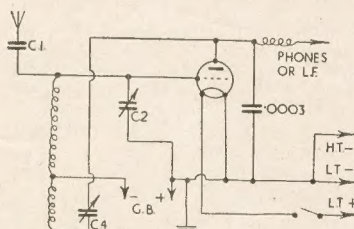


Fig. 2—The anode-bend detector

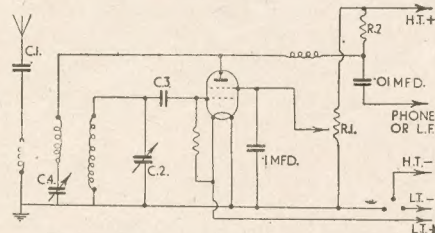


Fig. 3—A screen-grid detector circuit

the bias, which also makes reaction so erratic that often it may be omitted. Because of this, the circuit is used to obtain maximum volume from local stations, not for long distance reception.

## Reaction Connections

For picking up weak signals, smooth and efficient reaction is essential. The reaction condenser may be connected either between the reaction coil and earth, as in Fig. 1, or between valve anode and coil, as in Fig. 2. But for short wave sets the former method is best, because in Fig. 2 the spindle is not earthed. Thus, moving the hand of the control knob will slightly upset reaction.

However, the coil used in Fig. 2 is simpler, having only three connections. This is an advantage with home-wound coils, especially for long

and medium waves, where hand-capacity is far less noticeable.

The number of turns on the reaction coil, and the distance between it and the tuning coil, are important. Increasing the turns, or tightening the coupling, will make reaction more fierce. Normally the reaction coil will be about one-third the turns of the other coil, with a distance of about  $\frac{1}{4}$  in. between the two coils.

Increasing the H.T. voltage will also make reaction more violent. This should be avoided, either by reducing the voltage, or number of turns on the reaction coil. With the circuit shown in Fig. 1, there is no advantage in using more than 60 volts H.T.

## Screen-Grid Detector

A circuit for this type of valve is illustrated in Fig. 3. It is more complicated, but can give excellent results. Tuning and other condensers will be of the same values as in Fig. 1.

A potentiometer of about 100,000 ohms (R1) is connected between H.T. plus and H.T. minus (the latter connection is switched to prevent the battery discharging through the potentiometer.)

By turning this control the screen grid voltage can be adjusted to any value so the valve is in its most sensitive condition. The setting of

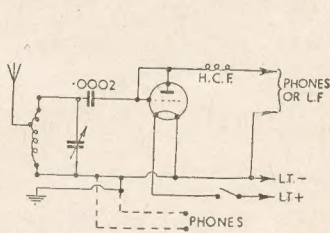


Fig. 4—The simple diode detector

this control will also govern the ease with which the valve oscillates.

Phones or low frequency transformer may be wired directly between the usual choke and H.T. plus. However, as the valve has a higher impedance than a triode, it is best to use an anode resistor R2 of about 100,000 to 250,000 ohms. To overcome the voltage drop in this resistor, a H.T. battery of 120 volts is preferable.

## Powerful Results

By using this valve in the circuit in Fig. 2, very powerful results can be obtained. Speaker or phones may be connected directly from anode to H.T. plus, and the screen grid also taken directly to H.T. plus, if a valve such as the Cossor 220HPT is used.

(Continued foot of page 293)



# Hints for the amateur photographer in taking STREET SCENE PICTURES

THE last photographic article appearing in Hobbies Weekly dealt with the taking of interiors of Churches. Firstly because of their historic and general public interest and, secondly, because it is one of the subjects that the amateur can become deeply enthusiastic about at any season of the year.

It seems very natural that this



A picture of Old Leigh Street, years ago

should be followed by a subject having a very similar appeal, and a few hints on Street Scenes should therefore be of some value to all with cameras and help to influence the use of those cameras.

Everyone knows that we in England are passing through a period which future historians might truthfully assert to be a 'transitional' period, when new towns and suburbs to existing towns, are going to be built. With this there is the enormous amount of reconstruction and re-building that is inevitable during the next ten years.

It is safe to prophesy that such great changes in many of our local rural spots will take place as to make them quite unrecognisable. As an example of this, the first illustration shows two very old wooden constructed cottages built many years ago in a bye lane adjoining a farm. The photograph was taken about 15 years ago.

Today, that spot is covered by a series of bungalows on a macadamized roadway which runs through what was locally considered as 'our Devonshire Lane'. Buses and motor coaches now use the road and in a very short time it will have lost all its former claim to be a country district. Those who reside in it will find it difficult to believe that at one time an atmosphere as is depicted in the photograph ever existed. Such a photograph will of a surety find a place on the walls of the local Library or even the Town Hall.

Amateurs will do well to keep *au fait* with any planning and reconstruction work which their local authorities are contemplating in connection with the rebuilding of places and sites which suffered in the bombing raids of the last war. Photographs of these places in their present condition will, in a few years, make most interesting records of 'what was' and 'what is' and therefore should be in great demand as picture postcards.

With the prevailing desire on the part of many corporations and landlords to do away with old buildings and to replace with modern structures, it naturally follows that shops and other houses of two or three hundred years old, or even those of only one century, are likely to become very scarce.

Look for instance at the second illustration. It is a small corner of a south coast town and situated within a few feet of the quayside, a most delightful spot and



The quaint quayside corner at Lymington

very popular with every visitor. But who can say how long it will be allowed to remain as a bit of 'Old' England? Or how long will the owner be satisfied to permit these small premises to stand, when probably a huge hotel or stores would produce a much larger rental?

Another example of historical interest and also of beauty is the main street of West Wycombe as shown. Some years ago this whole village was up for sale and our friends across the Atlantic wanted to buy it and re-erect it in America. Fortunately, however, the National Trust had their eyes on it and were able to purchase it and so retain it for

the benefit of the inhabitants and as a permanent showplace for the many hundreds of visitors who go there every year.

## Street Hawkers\*

Street Scenes, however, are not limited to buildings or even to old-fashioned shop fronts and windows. What about those street hawkers and their gaily decorated barrows of fruit, vegetables and other wares? Not forgetting even those filled with all sorts of odd bits and pieces, commonly called 'junk'. These are becoming things of the past because traffic regulations are compelling the authorities to regard them as likely obstructions and so street markets of this character are in many towns forbidden.

The author has many times regretted that he did not use the camera in the old days on such items as The Baked Potato Man with his portable oven, or on The Old Lady with her Basket of Pigs Trotters. And what a picture could have been made of the Fruit Stall sheltering in a corner of the Royal Exchange about 20 years ago and the many folks purchasing a juicy pear, Brazil nuts or a bag of roast chestnuts, not forgetting the sprinkling of salt.

## Records

These are only a few examples of items of the bygone days and they must and can only serve as historical records of what we amateurs should have been keen to capture on our films and plates. For they would have been very valuable nowadays. Therefore, those of us who are now enjoying the hobby, and have the advantage of using material that is much more speedy in its action should not hesitate to specialize in Street Photography.



The Main Street of West Wycombe

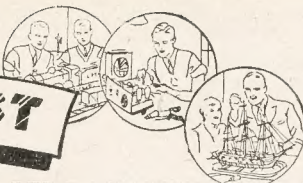
As will be realized by all who read this article, its opportunities are limitless, offering not only records, but also subjects which can with a

(Continued foot of page 292)





## REPLIES OF INTEREST



### Marked Table Top

**I** WISH to re-polish a table top, which has a white mark in it. Can you tell me how to remove? (J.L.—Wortley).

**T**HE water stain, which usually leaves a patch of white, can often be removed by vigorously rubbing it with a rag moistened with a little, not too much, warm camphorated oil. Go gently at first and increase pressure later. Restore the polish afterwards by sprinkling the same rag with spirits of camphor and gently rubbing over. The stain caused by the heated iron can be rubbed over with a mixture of linseed oil, three parts, and turpentine, one part. This may be effective, but may also cause re-polishing the table necessary. Burns can rarely be removed without also removing the polish.

### Luminous Paint

**P**LEASE tell me the preparation of luminous paint and how to mix it. (A.E.W.—Wickford).

**T**HE following are reliable formulae for making luminous paint, but the results depend a great deal on the purity of the chemicals—all have to be 'excited' by exposure to sunlight or bright electric light.

#### Balmains Paint.

20 parts by weight Calcium oxide  
6    "    Sulphur  
2    "    Starch  
1 part of a  $\frac{1}{2}$  per cent solution of Bismuth nitrate  
15/100 part Potassium chloride  
15/100    "    Sodium chloride

Mix thoroughly and then heat in a crucible to about 1,300 degrees Centigrade for at least a half hour. The resulting powder can be mixed

with any good grade white varnish to form a paint. The colour is violet in hue.

For a yellowish white hue, the following formula should be used, and the materials heated and mixed as before.

Strontium carbonate	100 parts by weight
Sulphur	30    "    "
Sodium carbonate	2    "    "
Sodium chloride	1/5th part
Manganese sulphate	1/5th part    "

The chemicals (if available at the present time) could be had from or through any good chemist.

### Garden Ornaments

**A** FRIEND and I are very interested in making garden ornaments. Could you tell us how to do it? (E.N.—Nelson).

**W**E suggest that garden ornaments can be made in a very satisfactory manner by using ordinary, good quality Portland cement. This can be bought in 7lb. bags for 1/- or less, or larger quantities if needed.

To make a suitable mixture for casting or pouring into a previously prepared mould, mix two parts of Portland cement to five parts of fine sharp sand (proportions by bulk). Stir thoroughly and pass through a fine sieve or riddle, then heap up and form a crater in the centre of the mass and gently pour in clean water and stir to form a creamy-like mass. Pour into the mould and leave for a day to set, then remove the mould.

A mixture which can be modelled by hand, as it takes longer to set, is composed of three parts Portland cement, two parts slacked lime and

four parts of clean sharp sand. Mix as before in the dry state, then add water to form a stiff paste. This can be spread with trowel or modelled and shaped with simple modelling tools—for example, a metal spoon and a round-ended stick, or other shaped tools.

### Cobbler's 'Feather Edge'

**I**N boot repairing, what kind of knife is used, if other than the usual leather knife, to cut the 'feather edge' around the sole? (W.W.H.—Camberley).

**I**N reply to your boot repairing query, the 'feather edge' around the sole may be cut with an ordinary shoemaker's knife, the resultant 'lip' thus formed being turned up with the end of a screwdriver. The latter may be used to score the bottom of the lip to make a deeper groove for the stitching.

For an adhesive, ordinary rubber solution may be used, allowing same to get tacky prior to pressing down the feather edge with the head of the hammer and tapping it flat.

### Stone Cutting

**I**S there a good method for an amateur to use for cutting and polishing non-precious stones? (G.N.H.—Wokingham).

**N**ON-precious stones if fairly hard can be cut by means of a broad thin-bladed stone-mason's chisel driven by a heavy hammer—a mason's club hammer about 4lbs. in weight is generally serviceable.

The stone to be cut or split should be rested on a firm bed such as a box well filled with sand, or for small pieces, on a lead block or something of that kind. Judgment as to the best part of the specimen to cut, and the direction of the cut, likewise the strength of the blow, can only be acquired by experience.

Softer stones can be sawn by means of an ordinary hacksaw, as used for metal cutting, with plenty of water as a lubricant.

### Street Pictures—(Continued from page 291)

little thought, care and manipulation be the means of producing pictorial and more or less, exhibition results.

#### Consider your "Shot"

Thought, care and manipulation must, obviously, be given when this type of work is being done. Perhaps this wants some explanation. When a suitable subject is spotted it does not help to succeed by being in a hurry to make the exposure. Be quite sure you are standing in the best position. Consider the lighting and, if it is a subject in which figures are to be included, make certain that you have got 'action' in the figures.

Then there is the question of exposure. In all probability there is

much movement—such as traffic, either vehicular or pedestrian. This necessitates a very fast exposure and possibly an open stop, so give this some careful consideration. Sometimes it will happen that a person has noticed you are going to make an exposure and has a desire to be 'in' it. Quite frequently this means a delay until he or she has got tired of waiting and passes on. It is not always good to include a figure, and the delay is worth while.

Lighting can play a very important part in these subjects. A splash of sunlight has at most times a wonderful effect and it is always worth while waiting for. It certainly adds that pictorial touch; without it the result

is very likely to be somewhat drab.

#### On Wet Days

Finally do not be deterred from making the exposure because it has been raining. Wet pavements and their reflections often add a charm to the result especially if that splash of sunshine has become a feature.

Well, it is hoped that this will inspire all amateurs to get busy on this extra fascinating subject. In conclusion be sure to file carefully every negative. It may not be required for some years but it will be useful at some time. Or it may be the negative from which a picture will be hung at next year's Royal Photographic Exhibition or The Salon.



# Patterns on page 295 for parts of this handy TABLE BOOKSTAND

THE form of book rack shown in our illustration is very simple to make, and we give three methods of decoration which can be carried out to suit the one form or outline of rack. The rack consists of two ends, almost circular in form, a plain back and shelf and four stiffening pieces.

From the full size patterns on page 295, all the parts may be either drawn direct on to the wood, or just pasted down and cut round with the fretsaw. The leaf decoration shown on the pattern of the end would look very effective cut in the ordinary way with the fretsaw.

## Leaf Pattern End

If this form of decoration is chosen it will be necessary first to make a tracing of the leaf on to thin tracing paper ready to be transferred to the second end upright of the rack.

The paper could be pasted down as a second pattern, or the outline could be made by pinning down the

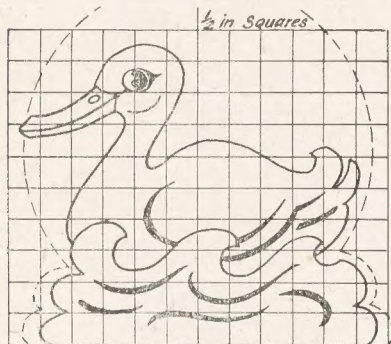


Fig. 1—Marking out the end pattern

paper over the wood and marking the leaf and its circle in carbon paper direct on to the board.

If the duck overlay is to be introduced into the rack instead of the fretted leaf, then the illustration of the duck in Fig. 1 must be enlarged on to suitable wood and cut in the ordinary way with a fine fretsaw and afterwards glued to the ends.

With this overlay scheme of decoration, the whole rack, including the two ends, the shelf and the back, should be made up complete and the bird overlays put on last. The reason for this is that screws for stiffening the construction can be put through the ends (see pattern sheet into the shelf and back, and the heads of the screws hidden by the overlays.

Cut the two ends therefore and smooth the outer edges and the two surfaces and bore the holes for the four screws in each end. If the leaf design is carried out the screws should be round-head brass or again the holes could be made large enough to run in four glued dowel pins. These, when cleaned off level with the surface of the wood, look

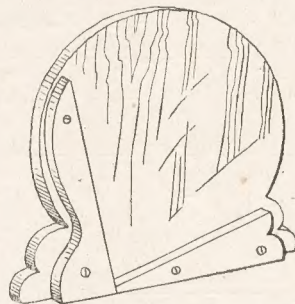
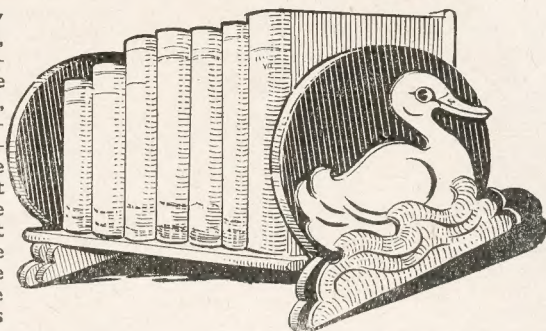


Fig. 2—Inside end shelf supports

quite neat and make perhaps a firmer fastening than the screws.

Pieces C and D form good fixings for the shelf and back. These are glued on firmly and clamped to get a close joint. In Fig. 2 the pieces are shown glued and screwed to the inside of one of the ends.

Now it must be remembered that the book rack is intended for light books only, and is not intended to take large or heavy ones. The shelf and back, therefore, should not exceed 9 ins. or 10 ins. in length and



the widths should be 4 3/4 ins. and 5 1/4 ins. respectively. Wood 1/4 in. thick would be suitable for all parts except the end uprights which should be 3/8 in. or even 1/2 in. thick.

It is intended that the duck overlays be painted before they are glued in place on the ends. The actual face of the ends would look well stained black with a matt surface finish. Then the brightly coloured overlays in white, yellow and green glued on carefully. The remaining wood surfaces of the rack might be brush coated with stain and french polish.

## An Inlay Alternative

As an alternative to the fretted leaves of the ends, those may be treated as inlay, the cut-out parts being filled with a special wax somewhat like sealing wax and run off smooth on the surfaces. A piece of glass or a piece of sheet metal is laid behind the decorated face while the wax or other material is being filled in.

There is yet another means of getting the decorated effect, and that is by means of stencil. Here the spaces between the petals of the leaf, shown shaded in the illustration on the pattern page, are cut through in stencil form from a sheet of parchment. This is then laid in correct position on the bare wood of the ends and the spaces filled in with a stencil brush, using a dark stain. The whole is afterwards coated with a wax polish or french polished.

## Detector Circuits—(Continued from page 290)

Powerful reception of local stations is then possible.

If earphone reception of distant stations is intended, then a high frequency pentode such as the 210SPT (or any of its equivalents) is best.

### The Simple Diode

Of all valve detectors, the diode gives the greatest clarity of reproduction. A triode can be used as a diode by connecting grid and anode together (see Fig. 4). No high tension

supply of any kind is used.

Two methods of connecting the phones (or low frequency coupling transformer) are possible. One is between the high frequency choke and L.T. minus. For the other method, remove the choke and .0002 mfd. condenser and insert the phones between the bottom of the tuning coil and L.T. minus. For preference a condenser of about .0003 to .0005 mfd. should be wired across the 'phone terminals to return the radio-frequency signal to earth.

The tuning condenser will be of the usual value, and the aerial may be taken directly to the top of the coil for maximum volume. Quality of reproduction is very good, but weak signals are not heard. Accordingly, such a circuit is used for powerful stations, or where there are two or three valves amplifying the signal before it reaches the diode.

All the circuits have their own advantages, and it is suggested the constructor should try some of them out.



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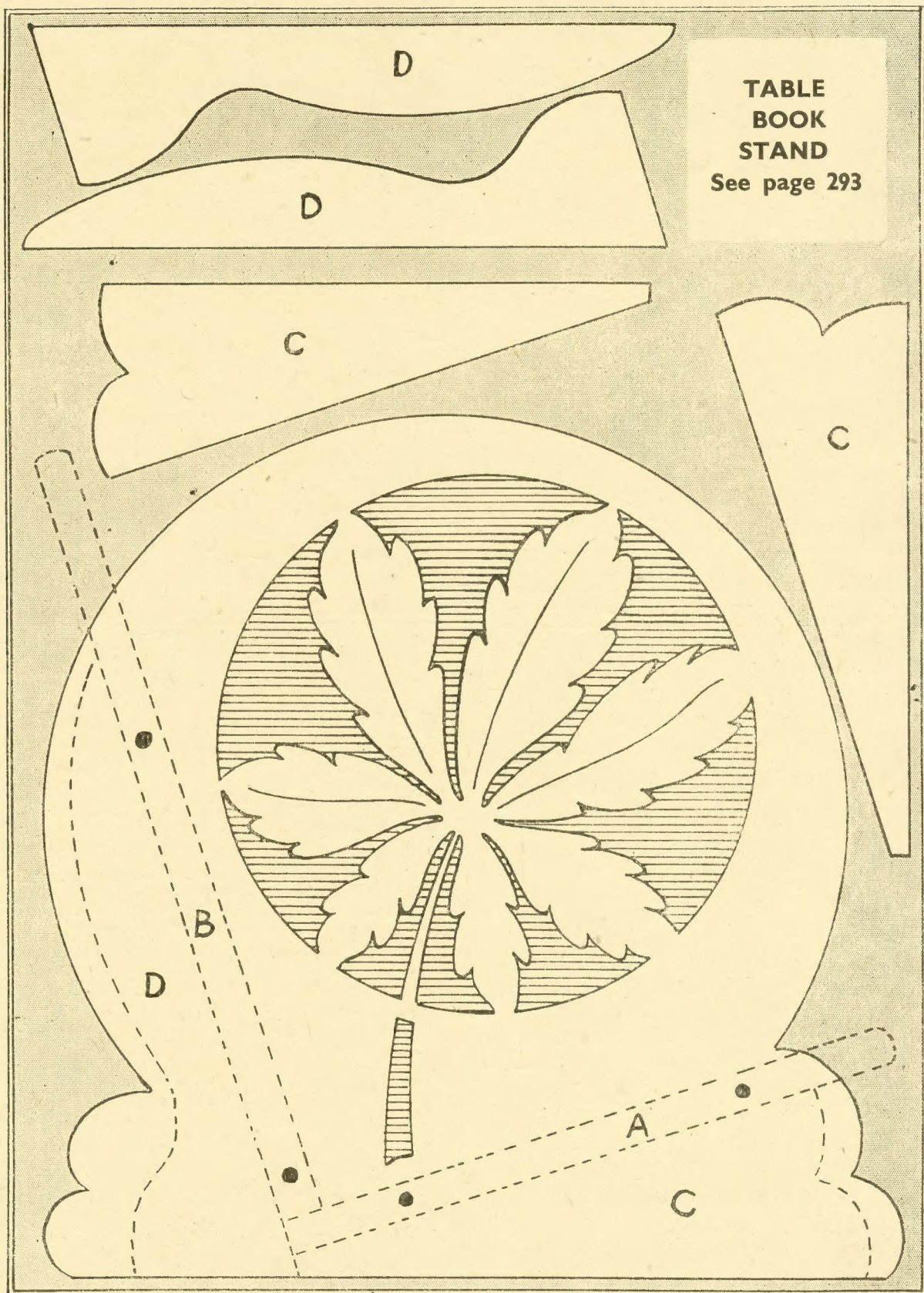
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**TABLE  
BOOK  
STAND**  
See page 293





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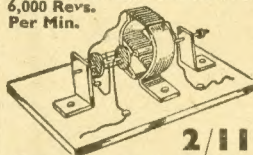
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